

## **PUTT-PUTT FUN CENTER – RCD Encroachment Application Attachment**

Chapel Point Road PIN 9870 99 7083

July 27, 2020

The following information is provided with the RCD Encroachment Exemption Application. The Information is numbered to correspond to the Submittal Requirement Numbering as listed in the application:

- A. Utilities Plan (SUP-5.0) (7-27-2020)
- B. Grading Plan (SUP-3.0) (7-27-2020)
- C. Sedimentation and Erosion Control Plan – this has not been completed as part of the special use permit, but will be completed at construction drawing time
- D. Stormwater Management Plan (included on grading plan SUP-3.0) (7-27-2020)
- E. Soils Analysis (separate sheet 8 ½ x 11)
- F. Topo Plan with streams, flood information, and RCD information (on Existing Conditions SUP-1.0 and on the Grading Plan SUP-3.0) (7-27-2020)
- G. Profile Plan – profiles have not been done at this SUP stage
- H. Landscape Plan (SUP-1.2 showing existing trees to be removed, and SUP-7.0 showing proposed plantings) (7-27-2020)  
As well as the existing trees surveyed on site, a biologist’s report includes some description of existing understory vegetation on site.
- I. Wildlife Habitat Description  
A biologist was hired to investigate current conditions at the site and describe existing habitats and note the effect of disturbance created by this project. That report is included with this submittal.  
In general, the biologist noted various habitat types within the site. The forest and easement zone north of the stream will not be disturbed, so those habitats will remain intact. Additionally it is not the intent of the developer to “clean up” the forest, so any future fallen trees or snags will be left in place to provide additional habitat. The forest habitat north and south of the stream are the same, so development south of the stream will not be removing unique habitat. And the major site barriers (I-40 corridor to the east and the apartment complex to the south) which limit wildlife movement will not be changed by the proposed development or

encroachment into the upper RCD zones.

The two areas to be disturbed within RCD zones are the southwest corner of the parcel for the proposed recreation development, and a narrow zone along the eastern property line which will be disturbed in the future when the Town extends the greenway trail parallel to I-40.

The disturbance in the southwest area will be completed in conjunction with the installation of a stormwater mitigation pond, so that final built element will contribute to wildlife habitat.

And the pond and drainage associated with it are both uses which are permitted by right in the RCD area (LUMO Table 3.6.3-2). After construction of the pond, it is expected that the disturbed area around it will revert back to a natural state except for the normally maintained 10' wide maintenance zone and dam itself. This disturbance will not place an impediment into the existing natural corridor.

J. Material Storage Description

During the construction of the Project, construction materials will be stored on the Project Site. Storage will be within the Limits of Disturbance (and within any required Tree Protection and Silt Fencing). Construction waste will be collected and removed per local requirements. Portable toilets will be provided for Human Waste, which will be disposed per local requirements, and will not be located in the RCD zones.

K. Floodproofing Certificate

A Floodproofing Certificate will not be required on this Project because the Project is not within a mapped 100-Year Flood Plain. In addition, the nearest 100-Year flood elevation at 462 just west of the site, which is approximately 42 feet below the lowest proposed FFE on site, so no occupied building spaces are near flood locations.

L. Riverine Relocation Notices – NA – No relocation of channels

M. 100-Year Flood Elevation Description

For this project, there is no disturbance in the stream side RCD. In the Managed Use RCD, there is up to 4' or so of fill proposed to construct the embankment for the proposed wet detention pond. The proposed fill in the area of the pond matches the existing grades in this zone at the upstream end of the pond. Excavation for the pond is proposed in the Upland RCD. Based on the existing topography in the stream side RCD, it is anticipated there will be no increase in the 100-yr flood elevation due to the proposed fill. There is approximately 10' of elevation change within the stream side RCD. Given the size of the upstream basin, the 100-yr flood depth is much less than 10'. So, the 100-yr flood will not reach the proposed fill and will not be affected by the proposed fill. As a result, there will be no increase in the 100-yr flood elevation, no change in the duration of the 100-yr flood, and no change in the velocity upstream of the RCD intrusion for the pond. With regards to water quality, NCDEQ only requires a 50' vegetated buffer for nutrient reduction. For this project, the stream side RCD (50' in width) will remain in its current state with existing wooded vegetation. The managed use RCD and upland RCD will

both be vegetated as well. So, there should be no negative effects on water quality for the receiving stream as a result of the proposed RCD intrusion. With regards to sediment deposition, all disturbed areas within the RCD will be revegetated. For the pond embankment, the Town requires annual maintenance and inspections to ensure that adequate vegetation is maintained. As such, there will be no adverse effects to the receiving stream as a result of sediment deposition. In addition, the proposed pond will capture sediment from the proposed upstream development.

- N. Property Owner List: A mailing list of all owners within 1000' of the site is included with the application package.

# Putt-Putt Fun Center

## SPECIAL USE PERMIT APPLICATION CHAPEL HILL, NORTH CAROLINA

### OWNER:

ERBER, LLC  
3055 BIG RIDGE ROAD  
BAKER, WV 26801

### CONTRACT PURCHASER / DEVELOPER:

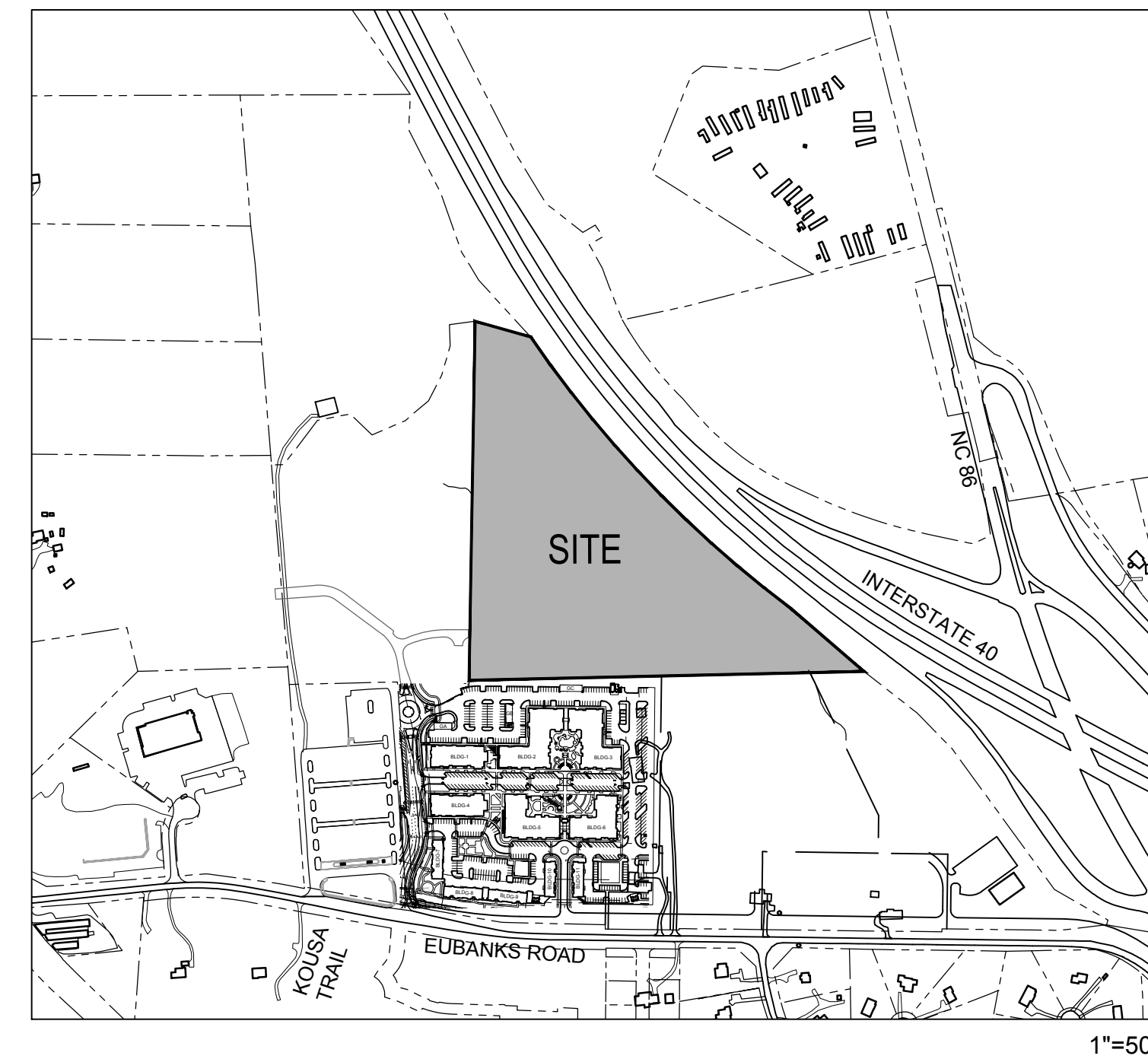
OPTIMAL VENTURES, LLC  
194 FINLEY GOLF COURSE ROAD, SUITE 102  
CHAPEL HILL, NC 27517  
CONTACT: SCOTT MORRIS  
SMORRIS@MORRISCOMMERCIAL.COM  
919-942-1141

### APPLICANT / CONSULTANTS:

LANDSCAPE ARCHITECT / LAND PLANNER:  
COULTER JEWELL THAMES, PA  
111 WEST MAIN STREET  
DURHAM, NC 27701  
CONTACT: WENDI RAMSDEN  
WRAMSDEN@CJTPA.COM  
919-682-0368

ENGINEER:  
COULTER JEWELL THAMES, PA  
111 WEST MAIN STREET  
DURHAM, NC 27701  
CONTACT: PRESTON ROYSTER  
PROYSTER@CJTPA.COM  
919-682-0368

### VICINITY MAP



### PROJECT DATA:

PARCEL:  
ADDRESS: I-40 FRONTAGE NORTH OF EUBANKS ROAD  
CHAPEL POINT ROAD  
PIN: 9870997083  
NET SITE SIZE: 842,609.43 SF / 19.344 AC  
GROSS SITE SIZE: 926,870 SF / 21.278 AC

LAND USE:  
EXISTING: VACANT, WOODED  
PROPOSED: INDOOR / OUTDOOR RECREATION SPACE  
CONDITIONED SELF-STORAGE

ZONING:  
EXISTING: MU-R-1  
PROPOSED: OI-2 WITH PD-MU OVERLAY

EXISTING BUILDINGS: N/A

PROPOSED BUILDINGS:  
INDOOR RECREATION: 28,500 SF (1 STORY + MEZZANINE MAIN BUILDING, 16,500 SF FOOTPRINT  
+ 4,500 SF 1 STORY CART SHOP)  
SELF STORAGE: 86,400 SF (4 STORY / 21,000 SF FOOTPRINT)  
TOTAL SQUARE FOOTAGE: 114,900 SF

TOTAL SITE AREA :	NET LAND AREA	GROSS LAND AREA
NON-RCD AREA	446,129 SF	490,741 SF
AREA IN STREAMSIDE RCD ZONE	173,620 SF	190,982 SF
AREA IN MANAGED RCD ZONE	122,851 SF	135,136 SF
AREA IN UPLAND RCD ZONE	100,010 SF	110,011 SF

ALLOWABLE BUILDING SF FOR:	FAR	SQUARE FOOTAGE
PROPOSED ZONE:	.264	129,556 SF
STREAMSIDE RCD:	.010	1,910 SF
MANAGED RCD:	.019	2,568 SF
UPLAND RCD:	.264	29,043 SF
TOTAL MAXIMUM BUILT SQUARE FOOTAGE:		163,077 SF

VEHICULAR PARKING:  
REQUIRED: 81 TO N/A - INDOOR RECREATION (PUBLIC USE FACILITY - MIN. 1/350 SF, NO MAX.)  
35 TO 58 - SELF STORAGE (MIN. 1/2500 SF, MAX. 1/1500 SF)  
= 116 SPACES REQUIRED MIN, NO MAXIMUM

PROPOSED: 163 STANDARD SPACES  
6 VAN ACCESSIBLE ADA SPACES  
= 169 SPACES PROVIDED

ELECTRIC CHARGING STATIONS  
REQUIRED: 3% OF TOTAL PARKING = 169 X 3% = 5.1 SPACES  
PROVIDED: 6 SPACES SERVED BY 3 DUAL CHARGING STATIONS  
SPACES INCLUDE 2 ADA SPACES AND 4 STANDARD SPACES  
2 DUAL STATIONS AT THE RECREATION PARKING, 1 DUAL STATION AT THE SELF STORAGE

BICYCLE PARKING:  
REQUIRED: 20 - OUTDOOR RECREATION (25% MIN. VEHICULAR PARKING)  
10% SECURED, 90% OUTDOOR  
+ 4 - SELF STORAGE (MIN. 4, NO OTHER REQ.)  
80% SECURED, 20% OUTDOOR  
= 24 SPACES REQUIRED

PROPOSED: 19 - SHORT TERM SPACES (10 LOOPS)  
+ 5 - LONG TERM SPACES (2 BIKE LOCKERS, 3 INDOOR SPACES IN SELF STORAGE)  
= 26 SPACES PROVIDED

IMPERVIOUS SURFACE:  
EXISTING: 0 SF  
PROPOSED: 197,606 SF

DISTURBED AREA INCLUDING OFF SITE: 335,500 SF / 7.7 AC

### TOWN OF CHAPEL HILL NOTES

- A FIRE FLOW REPORT SHALL BE SUBMITTED TO THE TOWN FOR REVIEW AND APPROVAL PRIOR TO ISSUANCE OF A ZCP.

### LIST OF SHEETS:

SUP-0	COVER SHEET
SUP-0.1	AREA MAP
SUP-1.0	EXISTING CONDITIONS PLAN
SUP-1.1	NOTES
SUP-1.2	TREE PROTECTION AND TREESAVE PLAN
SUP-2.0	SITE PLAN
SUP-3.0	GRADING PLAN
SUP-4.0	reserved for Erosion Control
SUP-5.0	UTILITY PLAN
SUP-6.0	LIGHTING PLAN
SUP-7.0	LANDSCAPE PLAN
SUP-8.0	SITE DETAILS
SUP-8.1	SITE DETAILS
SUP-8.2	UTILITY SITE DETAILS
A-1	ARCHITECTURAL BUILDING SECTIONS

### RESOURCE CONSERVATION NOTES

STREAM BUFFERS:  
THERE IS A MAPPED STREAM AND ASSOCIATED STREAM BUFFER LOCATED ON SITE. A DETERMINATION WAS COMPLETED BY CHAPEL HILL PUBLIC WORKS TO VERIFY THAT THE STREAM SHOWING UP ON THE ORANGE COUNTY SOIL SURVEY EXISTS.

FLOODPLAIN PROTECTION:  
THE SITE IS NOT AFFECTED BY A MAPPED FLOODPLAIN ACCORDING TO FIRM MAPS 3710978900 J (FEB. 2 2007).

STEEP SLOPE PROTECTION:  
THERE ARE STEEP SLOPES ON SITE LOCATED PRIMARILY WITHIN THE RCD. STEEP SLOPES ARE NOTED ON THE EXISTING CONDITIONS PLAN, SUP-1.0.

WETLANDS:  
THERE ARE NO MAPPED WETLANDS ONSITE.

TREE PROTECTION:  
REFER TO SHEET SUP-1.1



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LIC# C-1209  
NC BOARD OF LANDSCAPE  
ARCHITECTS LIC#C-104



Project

Putt-Putt  
Fun Center

I-40 Frontage north of  
Eubanks Road  
Chapel Hill, NC

PIN 9870997083

Job Number 1952

Drawn	WLR, MTC
Checked	WLR, PBR
Date	7/27/2020
Revisions	

SUP APPLICATION  
NOT ISSUED  
FOR CONSTRUCTION

Sheet Title

COVER  
SHEET

Sheet Number

SUP-0

PIN 9870997083  
 ENVIRONMENTAL CONSTRAINTS JORDAN BUFFER RESOURCE CONSERVATION DISTRICT  
 NET LAND AREA 844,031 SF / 19.376 AC  
 EXISTING ZONING: MU-R-1  
 PROPOSED ZONING: OI-2 WITH PD-MU OVERLAY

- POTABLE WATER IS AVAILABLE TO THE PARCEL WITH A WATER MAIN EXTENSION.
- SANITARY SEWER IS AVAILABLE TO THE PARCEL WITH A SEWER MAIN EXTENSION.
- NATURAL GAS IS AVAILABLE TO THE SITE.
- ELECTRIC SERVICE IS AVAILABLE TO THE SITE.

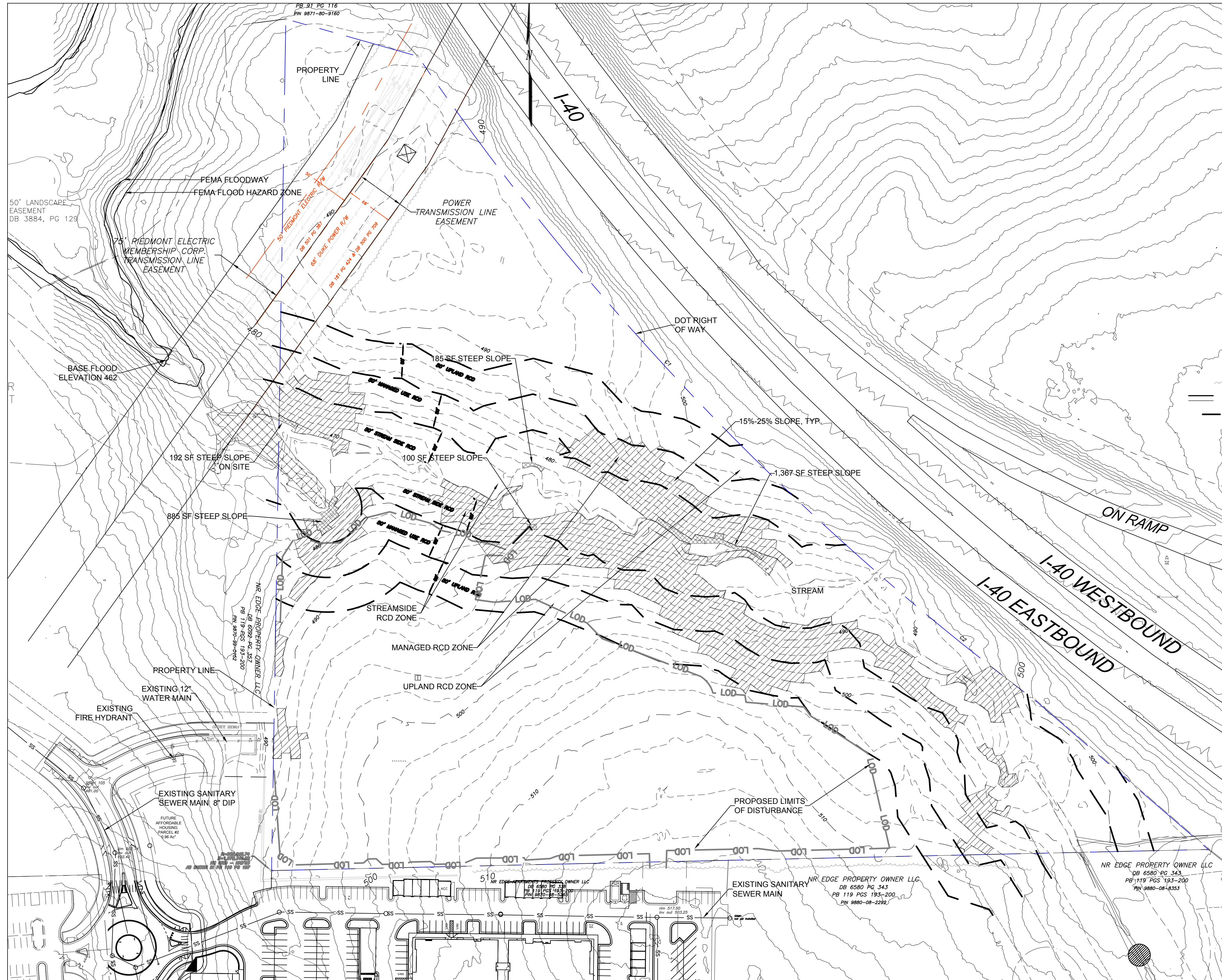
**LEGEND**

- PROPERTY LINE
- BUILDING ENVELOPE
- PERENNIAL STREAM
- INTERMITTENT STREAM
- BREAKPOINT BETWEEN PERENNIAL/INTERMIT. STREAM
- FEMA FLOODWAY OR FLOOD HAZARD AREA ALL OFFSITE
- RESOURCE CONSERVATION DISTRICT ZONES

- EXISTING IRON ROD(1/2")
- SET "MAG" NAIL - SURVEY BENCHMARK
- EXISTING IRON PIPE(1/2")
- COMPUTED POINT
- POSSIBLE SPRING
- WATER VALVE
- FIRE HYDRANT
- UTILITY POLE
- CURB INLET
- GUY WIRE
- WIRE FENCE
- SILT FENCE
- OVERHEAD POWER TRANSMISSION WIRES
- WATERLINE (APPROXIMATE LOCATION)
- TREE LINE
- PUBLIC ROADWAY RIGHT OF WAY LIMITS
- LOT LINE PLOTTED BY DEED - NOT SURVEYED
- PROPERTY LINE - NOT SURVEYED
- POSSIBLE RESOURCE CONSERVATION DISTRICT(SEE NOTE #6)
- RESOURCE CONSERVATION DISTRICT(RCD)(SEE CHAPEL HILL LUMO 3.6.3)
- ROCK OUTCROP

**2 PARCEL DATA**

**3 EXISTING SERVICES**



The parcel is bisected by a perennial stream with floodplain and an RCD zone, 150' wide horizontally from the top of each stream bank. The developable land includes approximately 7 acres between the stream and the south property line, with a smaller buildable area approximately 2.5 acres north of the stream buffer.

Slopes: The steepest slopes are in the stream buffer and RCD zones. The south developable area has slopes of 5-15% with the steepest area located where the new public street meets the property. The area north of the stream buffer has slopes of 5-10%.

Vegetation: Site is entirely wooded except for the electric transmission corridor.

**4 SITE ANALYSIS**

**LEGEND**

- SLOPES > 25%  
2,729 SF  
NO PROPOSED DISTURBANCE OF SLOPES >25%
- SLOPES 15%-25%  
107,192 SF  
PROPOSED 8,890 SF ESTIMATED DISTURBANCE (8.3%) OF SLOPES 15%-25%
- AREA NOT HATCHED REPRESENTS SLOPES <15%

**5 SLOPE SUMMARY**

**BASE INFORMATION**  
 TOPOGRAPHIC PARCEL INFORMATION SURVEYED  
 SURROUNDING INFORMATION FROM ORANGE COUNTY AND CHAPEL HILL GIS

**1 EXISTING CONDITIONS PLAN**

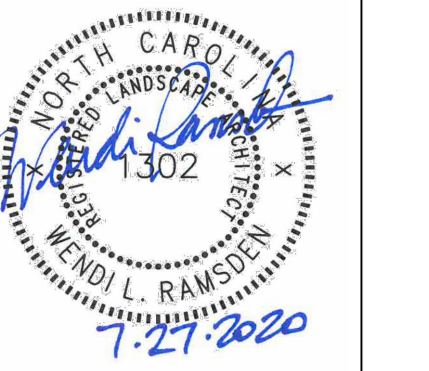
SEE NOTES RE: 1/SUP-1.1



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**Putt-Putt Fun Center**  
 I-40 Frontage north of Eubanks Road  
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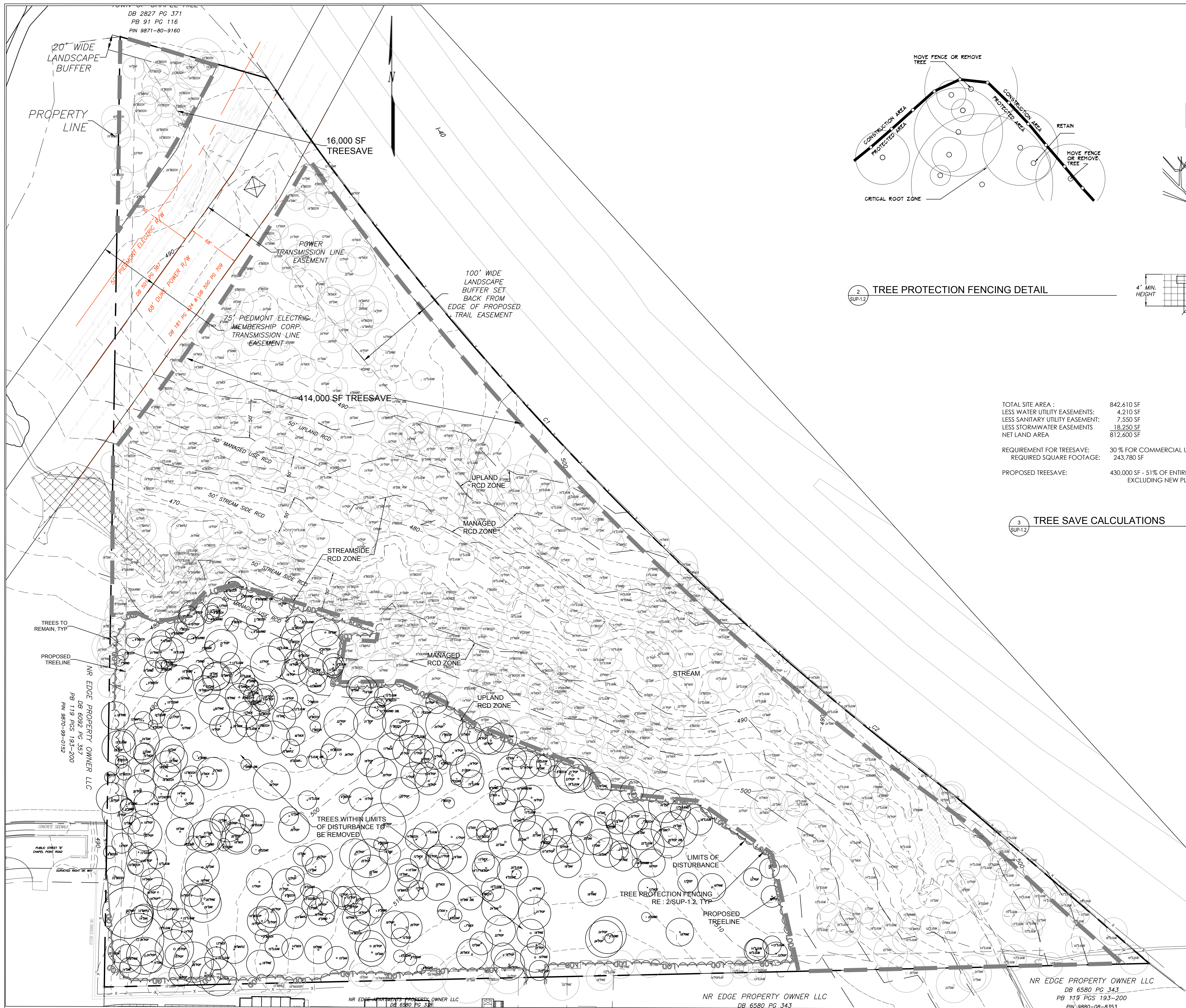
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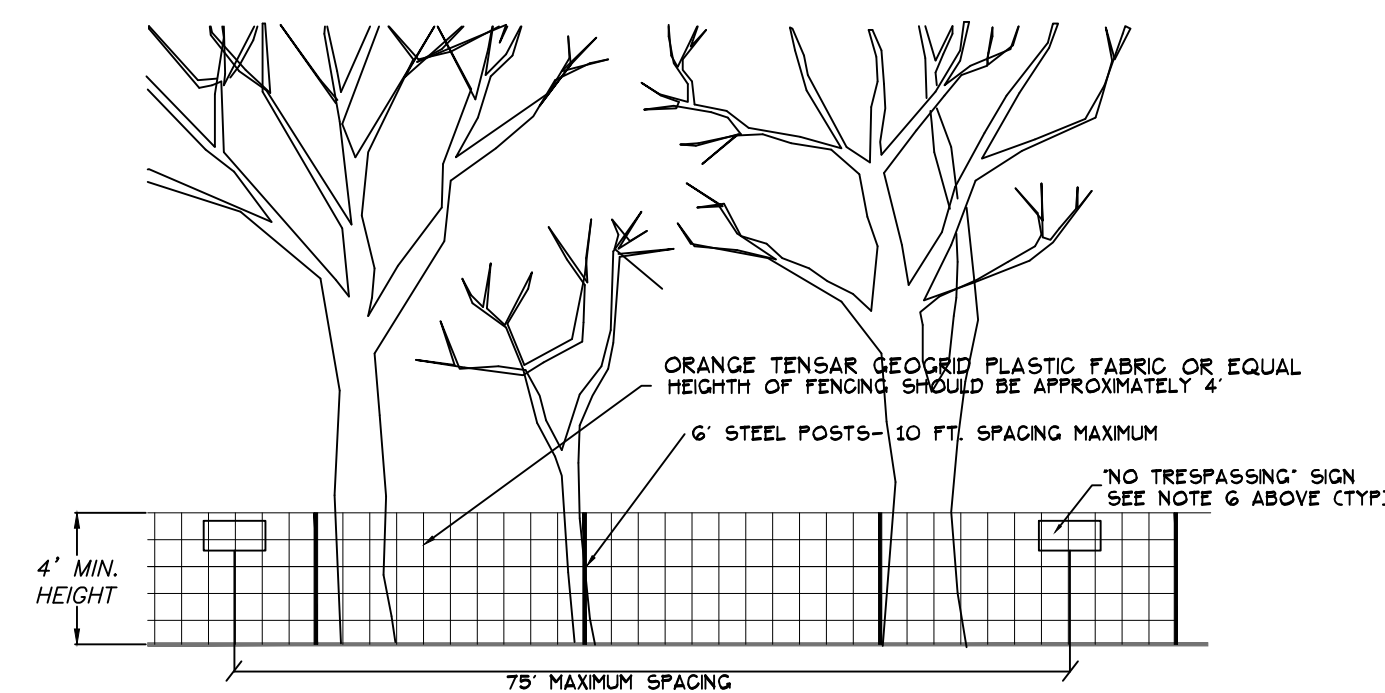
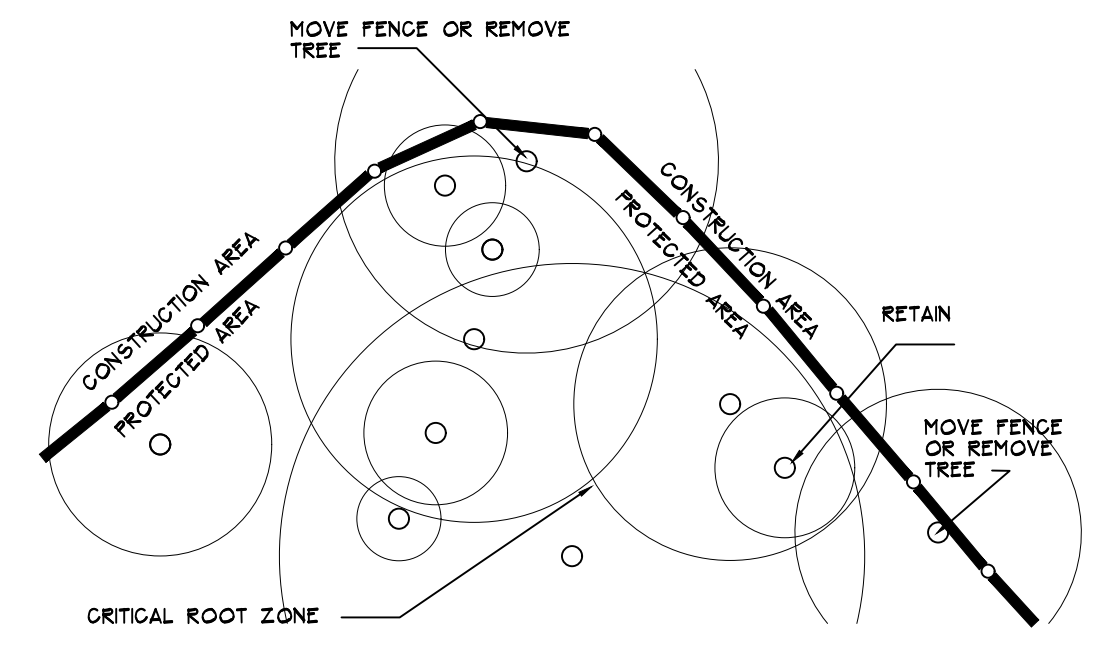
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Sheet Title  
**EXISTING CONDITIONS**

Sheet Number  
**SUP-1.0**



- NOTES:
1. MOVE FENCE OR REMOVE TREE IF MORE THAN 20% OF A TREE'S CRITICAL ROOT AREA IS UNPROTECTED.
  2. ROOT PRUNE TREES TO REMAIN WHERE CONSTRUCTION ACTIVITIES WILL SEVER ROOTS.
  3. ANY TREE ROOTS EXPOSED BY CONSTRUCTION SHALL BE SEVERED CLEANLY WITH A PRUNING TOOL.
  4. DO NOT DISPOSE OF ANY CHEMICALS OR REMOVE SOIL OUTSIDE THE LIMITS OF WORK.
  5. WHEN INSTALLING NEW LANDSCAPE PLANTS, DO NOT DRIVE EQUIPMENT UPON OR DISTURB THE SOIL WITHIN THE CRITICAL ROOT ZONE OF EXISTING TREES.
  6. SIGNAGE MUST BE PLACED ON TREE PROTECTION FENCING WITH A MINIMUM MINIMUM SPACING OF 75' O.C. TO READ 'TREE PROTECTION AREA - NO TRESPASSING WITHIN THE FENCE'.



TOTAL SITE AREA :	842,610 SF
LESS WATER UTILITY EASEMENTS:	4,210 SF
LESS SANITARY UTILITY EASEMENT:	7,550 SF
LESS STORMWATER EASEMENTS	18,250 SF
NET LAND AREA	812,600 SF
REQUIREMENT FOR TREESAVE:	30% FOR COMMERCIAL USE GROUP C
REQUIRED SQUARE FOOTAGE:	243,780 SF
PROPOSED TREESAVE:	430,000 SF - 51% OF ENTIRE SITE, EXCLUDING NEW PLANTINGS

3 TREE SAVE CALCULATIONS

**LEGEND**

---	PROPERTY LINE
---	LANDSCAPE BUFFER
---	PERENNIAL STREAM
---	RESOURCE CONSERVATION DISTRICT
---	TREESAVE AREA

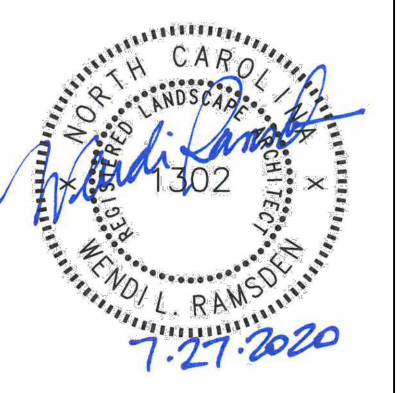
**BASE INFORMATION**  
ON SITE TOPOGRAPHIC AND TREE INFORMATION SURVEYED BY RILEY SURVEYING, PARCEL AND SURROUNDING INFORMATION FROM ORANGE COUNTY GIS.



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Project  
**Putt-Putt Fun Center**  
I-40 Frontage north of Eubanks Road  
Chapel Hill, NC

PIN 9870997083

Job Number 1952

Drawn WLR, MTC  
Checked WLR, PBR  
Date 7/27/2020  
Revisions

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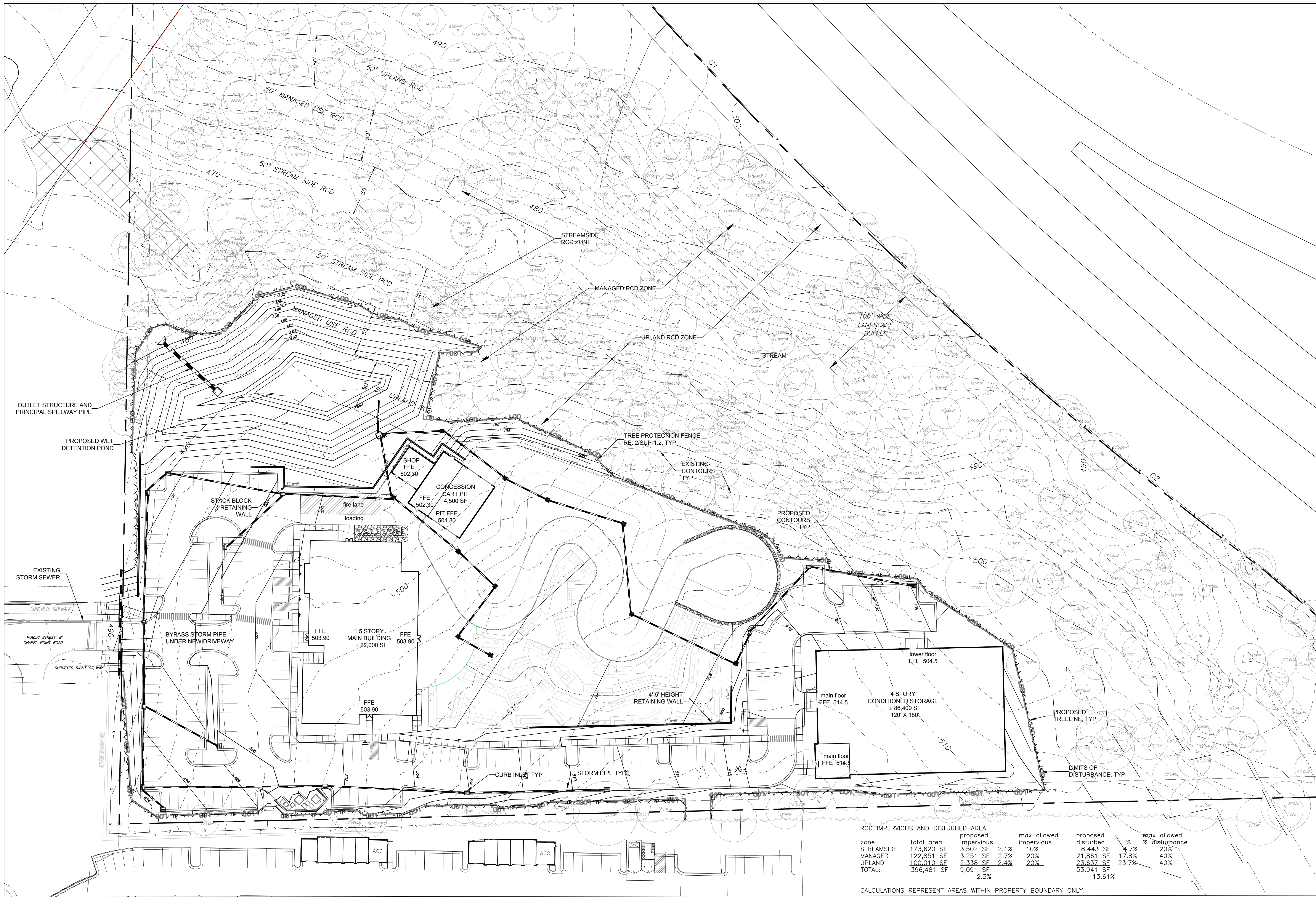
Sheet Title  
**TREE PROTECTION AND TREESAVE PLAN**

Sheet Number

**SUP-1.2**

1 TREE PROTECTION AND TREESAVE PLAN  
1"=60'





zone	RCD IMPERVIOUS AND DISTURBED AREA		max allowed impervious	proposed disturbed	max allowed % disturbance
	total area	proposed impervious			
STREAMSIDE	173,620 SF	3,502 SF	2.1%	8,443 SF	4.7%
MANAGED	122,851 SF	3,251 SF	2.7%	21,861 SF	17.8%
UPLAND	100,010 SF	2,338 SF	2.4%	23,637 SF	23.7%
TOTAL:	396,481 SF	9,091 SF	2.3%	53,941 SF	13.61%

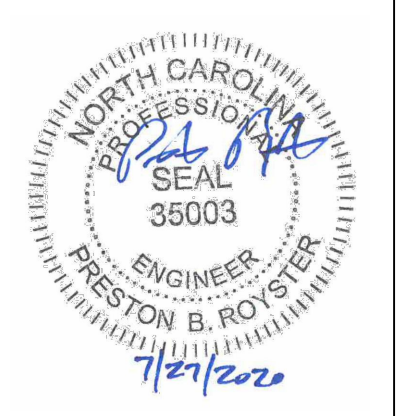
CALCULATIONS REPRESENT AREAS WITHIN PROPERTY BOUNDARY ONLY.



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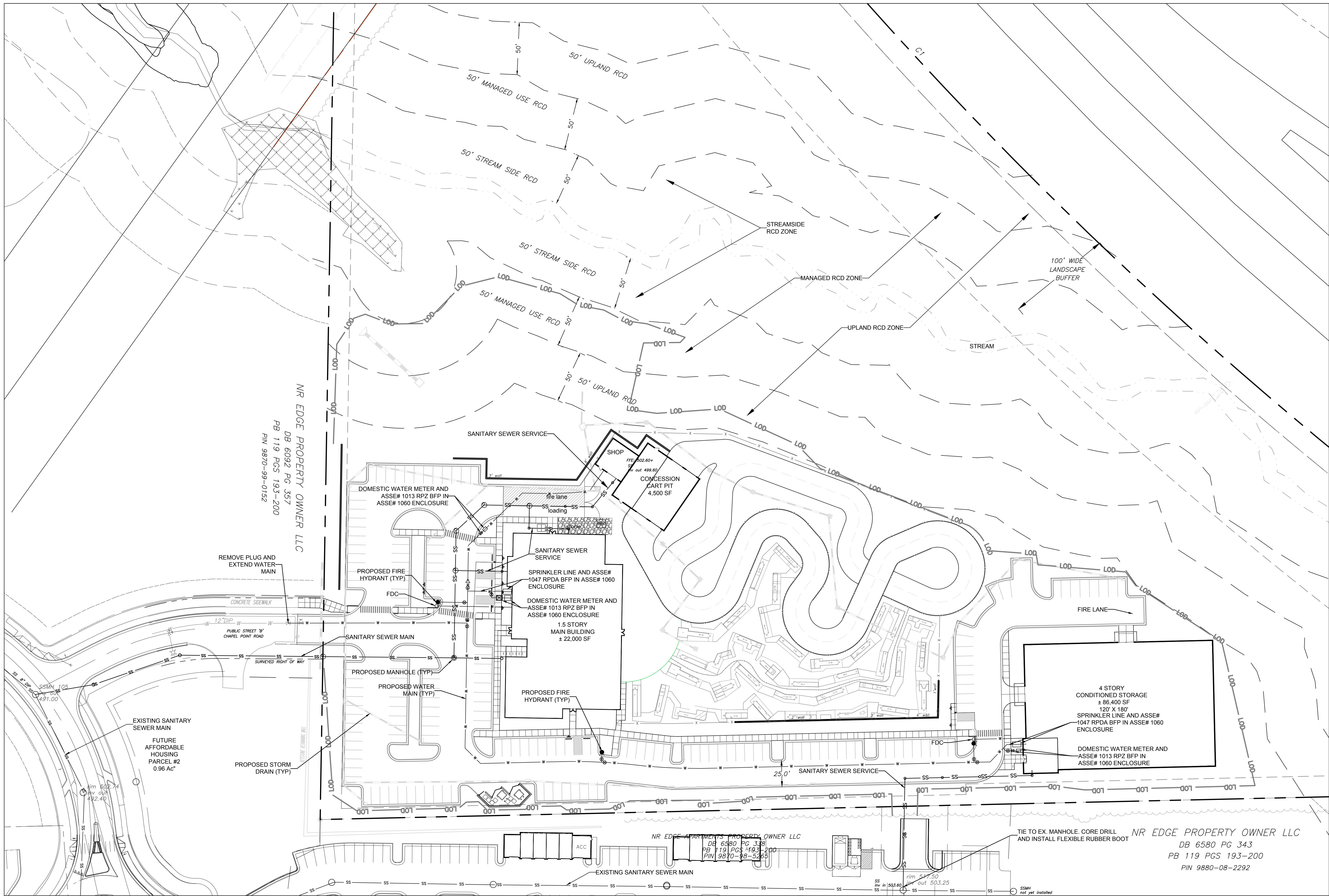
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Sheet Title  
**GRADING AND  
DRAINAGE PLAN**

Sheet Number

**SUP-3.0**



NR EDGE PROPERTY OWNER LLC  
 DB 6092 PG 357  
 PB 119 PGS 193-200  
 PIN 9870-99-0152

NR EDGE APARTMENTS PROPERTY OWNER LLC  
 DB 6580 PG 343  
 PB 119 PGS 193-200  
 PIN 9870-98-5265

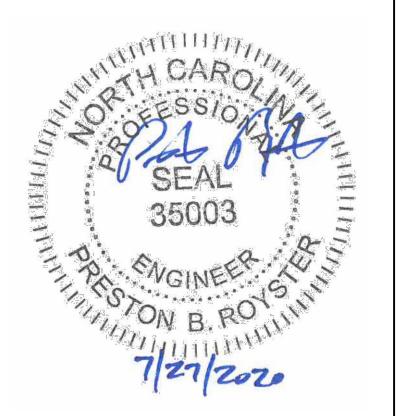
NR EDGE PROPERTY OWNER LLC  
 DB 6580 PG 343  
 PB 119 PGS 193-200  
 PIN 9880-08-2292



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Sheet Title  
**UTILITY PLAN**

Sheet Number

**SUP-5.0**







July 24, 2020

Morris Commercial  
194 Finley Golf Course Road, Suite 102  
Chapel Hill, North Carolina 27517

Attention: Mr. Scott Morris, Vice President

Reference: **Wildlife Habitat Assessment  
Putt Putt Fun Center Site**  
Chapel Hill, Orange County, North Carolina  
S&ME Project No. 4305-20-121

S&ME, Inc. (S&ME) has conducted a wildlife habitat assessment on the proposed Putt Putt Fun Center site. These services were performed in general accordance with S&ME Proposal 43-2000501 dated June 16, 2020.

## ◆ BACKGROUND INFORMATION

It is our understanding that the site is the location of a proposed development. The proposed development is located east of Myrica Street, north of Eubanks Road, and west of I-40 in Chapel Hill, North Carolina. The site consists of a single parcel further identified by Orange County property identification no. 9870-99-7083 and is depicted on the attached Vicinity Exhibit (**Figure 1**), Site Exhibit (**Figure 2**), and Site Location Exhibit (**Figure 3**).

## ◆ SITE DESCRIPTION

The site is located between Interstate I-40 and Eubanks Road in Chapel Hill, Orange County, North Carolina. A site visit was conducted by S&ME natural resources personnel on July 20, 2020. The site was undeveloped and primarily consisted of uplands. A perennial stream transects the site, flowing from the eastern property boundary to the western property boundary and was bound in some areas by what appeared to be wetlands. Within the uplands to the north and south of the stream, the canopy was dominated by tulip poplar (*Liriodendron tulipifera*), southern red oak (*Quercus falcata*), northern red oak (*Q. rubra*), American beech (*Fagus grandifolia*), mockernut hickory (*Carya tomentosa*), pignut hickory (*C. glabra*), red maple (*Acer rubrum*), sweetgum (*Liquidambar styraciflua*), loblolly pine (*Pinus taeda*) and white oak (*Q. alba*). Understory species included Christmas fern (*Polystichum acrostichoides*), painted buckeye (*Aesculus sylvatica*), redbud (*Cercis canadensis*), sourwood (*Oxydendrum arboretum*), poison ivy (*Toxicodendron radicans*), autumn olive (*Elaeagnus umbellata*), greenbrier species (*Smilax* sp.), little brown jug (*Hexastylis arifolia*), and sapling species of the canopy trees. Representative photos of these uplands are shown as **photos 1 to 2** in the attached photo log.

Wetlands at the western edge of the property adjacent to the stream and powerline easement contained standing water. These wetlands were dominated by red maple and sweetgum in the canopy and jewelweed (*Impatiens capensis*), sedge species (*Carex* sp.), American hornbeam (*Carpinus carolinana*), jack-in-the-pulpit (*Arisaema triphyllum*), royal fern (*Osmunda regalis*), and false nettle (*Boehmeria cylindrica*). Representative photos of this wetlands are shown as **photos 3 to 4** in the attached photo log. There is a perennial stream adjacent to the wetland that transects the site, flowing from east to west. The stream bed is composed of cobbles, boulders, silt, and sand. In addition to the species listed above as being present in the uplands and wetland, additional species



present along the stream and adjacent slope include rattlesnake plantain (*Goodyera pubescens*), rattlesnake root (*Prenanthes alba*), Japanese honeysuckle (*Lonicera japonica*), sensitive fern (*Onoclea sensibilis*), wild comfrey (*Cynoglossum virginianum*), and rattlesnake fern (*Botrychium virginianum*). Representative photos of the stream and the streamside habitat are shown as **photos 5 to 6** in the attached photo log.

A large approximately 200-foot powerline easement is located in the northwest corner of the site. Within this easement, vegetation included sapling loblolly pine, sweet gum, and red maple. Shrubby species included blackberry (*Rubus* sp.) and blueberry species (*Vaccinium* sp.). Herbaceous species included dog fennel (*Eupatorium capillifolium*), broomsedge bluestem (*Andropogon virginicus*), aster species (*Aster* sp.), panicum species (*Dicanthelium* sp.), and other grasses commonly found within easements. Representative photos of the easement are shown as **photos 7 to 8** in the attached photo log.

## ◆ WILDLIFE HABITAT

There are various habitat types within the site. The site contains several different species of mast trees, including a large number of oaks, hickories, and American beech trees. The fruit of these trees provides food for species including white-tailed deer (*Odocoileus virginianus*), eastern gray squirrel (*Sciurus carolinensis*), eastern chipmunk (*Tamias striatus striatus*), raccoon (*Procyon lotor*), Virginia opossum (*Didelphimoprhia virginiana*), and several bird species (Di Silvestro 2013) (**photo 9**). In addition to living trees, there are also a significant number of logs and other fallen debris on the site. Fallen logs and woody debris serve as a food source for insects, mosses, and fungi, which are in turn a food source for other species including raccoons, red fox (*Vulpes vulpes*), gray fox (*Urocyon cinereoargenteus*), bird species including the pileated woodpecker (*Dryocopus pileatus*), the black rat snake (*Elaphe obsoleta*), rabbits, foxes, salamanders, frogs, insects, mosses, and fungi. Per the National Wildlife Federation, the removal of snags and logs from the ground can remove habitat for approximately one-fifth of the animals in an ecosystem (Cover: Trees and Snags). A representative photo of the fallen woody debris found within the site is depicted as **photo 10** in the attached photo log.

The stream transecting the site provides a water source for terrestrial wildlife within the site and adjacent properties. In addition, the presence of the stream within the site provides habitat for species that require aquatic habitat for a portion or the entirety of their life cycle. Examples of species that might utilize aquatic habitat can include turtles, frogs, salamanders, or birds who consume aquatic species. Representative photos of the stream and adjacent floodplain are depicted as **photos 5, 6 and 11** in the attached photo log.

The site contains an approximately 200-foot-wide above ground powerline easement on the northwest corner of the site. Utility easements provide habitat for early-successional wildlife. The easement contains blueberry and blackberry species that provide a food source for wildlife including butterflies, songbirds, small mammals, foxes, raccoons, rabbits, and white-tailed deer. The dense herbaceous and shrubby vegetation provide suitable habitat for species such as rabbits who prefer brushy habitat with plentiful grasses and other herbaceous species. According to the North Carolina Wildlife Resources Commission's Habitat Management Guidelines for Early Successional Habitat (2020), 31 priority wildlife species are associated with early successional habitat including the eastern cottontail rabbit (*Sylvilagus floridanus*), whip-poor-will (*Antrostomus vociferous*), Eastern meadowlark (*Sturnella magna*), and the painted bunting (*Passerina ciris*). Protected species that rely on early successional habitat include Bachman's sparrow (*Peucaea aestivalis*), the painted bunting, and the star-nosed mole (*Condylura cristata*).



## ◆ HABITAT LIMITATIONS

When evaluating the potential of a site for wildlife habitat, it is important to consider the site vicinity. Interstate 40 is located approximately 50 feet from the site along the northeast property boundary, which serves as a barrier to wildlife movement. To the south of the site, there is a newly constructed apartment complex and a planned development (**photo 12**). There is an additional construction site west of the site. These barriers limit the interconnectivity of wildlife habitat within the immediate vicinity of the site. While there appears to be undeveloped land in close proximity of the site including on the opposite side of Interstate 40, these barriers interfere with the ability of wildlife to access the site or travel from the site to nearby habitat. These barriers are depicted on the attached **Figure 3**.

Another limitation is the lack of snags on site. Snags, or standing dead trees, provide habitat to a significant variety of animals. While a limited number of snags were observed, the National Wildlife Federation recommends approximately three snags per acre (Cover: Trees and Snags). While the site was not surveyed for snags, based on observations during the pedestrian site review, the density of the snags appeared to be less than three snags per acre and the majority of the observed snags appeared to be three to five inches in diameter. Snags provide hollow cavities for nesting for birds, owls, bats, squirrels, and raccoons and act as a food source to a variety of other species including insects, mosses, and fungi. These organisms are then a food source for other species including foxes, raccoons, and bird species such as the pileated woodpecker (*Dryocopus pileatus*).

## ◆ CONCLUSIONS

The site contains a wide variety of food sources for wildlife commonly found within the Piedmont of North Carolina including common mast trees. The site contained a significant amount of fallen woody debris, creating foraging and nesting habitat. The presence of the perennial stream in the vicinity of the site provides habitat for species that rely on an aquatic ecosystem either as an aquatic or semi-aquatic species during their lifespan or as a source of prey. The stream also serves as a source of drinking water for commonly found wildlife species. Significant limitations to wildlife use include physical barriers in the form of large roads and development, all of which impede the ability of the wildlife to move into and out of the site. Another limitation is the limited number of standing snags observed within the site. While the fallen woody debris can serve many of the same functions, the lack of snags reduces the habitat available for species that require them for nesting.

## ◆ CLOSING

S&ME appreciates the opportunity to provide natural resource services for this project. If you have any questions, please contact Ashley Bentz at 919-872-2660 or [abentz@smeinc.com](mailto:abentz@smeinc.com).



**Wildlife Habitat Assessment  
Putt Putt Fun Center Site**

Chapel Hill, Orange County, North Carolina  
S&ME Project No. 4305-20-121

Sincerely,

**S&ME, Inc.**

A handwritten signature in blue ink that reads "Ashley Bentz".

Ashley Bentz  
S&ME Staff Scientist

A handwritten signature in blue ink that reads "Kristy Smedley".

Kristy Smedley  
S&ME Senior Reviewer

Enclosures

**Qualifications**

The field survey was led by Ashley Bentz of S&ME. Ms. Bentz is a biologist and staff scientist with eight years of experience in environmental and natural resources consulting. Ms. Bentz is proficient in conducting wetland delineations, environmental permitting activities, and habitat assessments, including protected species surveys. She holds a B.S. degree in Environmental Studies from Elon University with minors in Biology and Geographic Information Systems and has a Master of Natural Resources degree from North Carolina State University with a focus on ecological restoration. She possesses the knowledge and competence in evaluating impacts of construction projects on wildlife, fish, and flora and their habitats.



## Works Cited

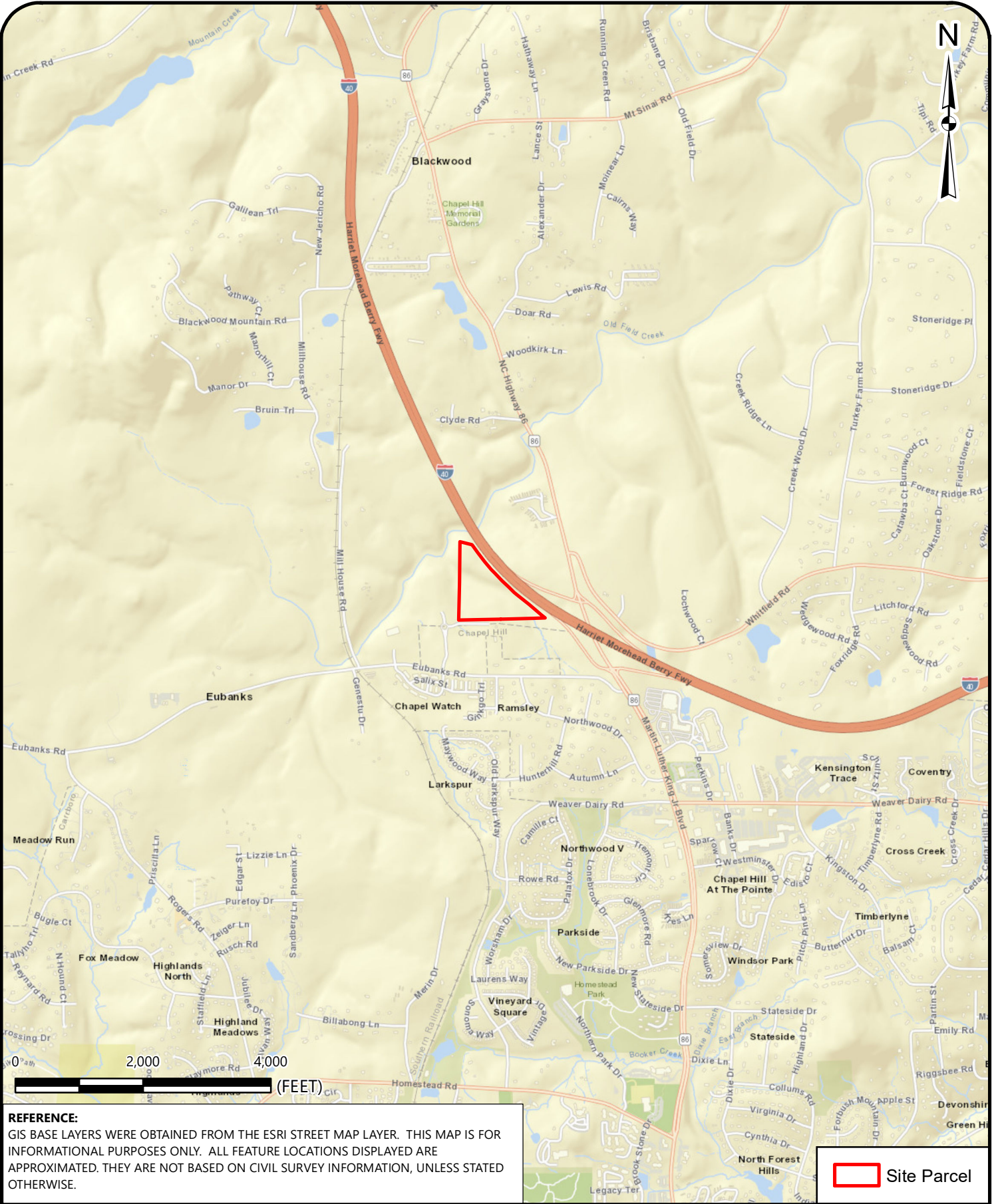
"Cover: Trees and Snags." *The National Wildlife Federation*, accessed April 22, 2020 from [www.nwf.org/Garden-for-Wildlife/Cover/Trees-and-Snags](http://www.nwf.org/Garden-for-Wildlife/Cover/Trees-and-Snags).

Di Silvestro, Roger. "The Wildlife Benefits of Acorns and Oaks." *The National Wildlife Federation*, 16 Oct. 2013, accessed April 22, 2020 from [www.blog.nwf.org/2013/10/the-wildlife-benefits-of-acorns-and-oaks/](http://www.blog.nwf.org/2013/10/the-wildlife-benefits-of-acorns-and-oaks/).

"Wildlife Conservation Land Priority Habitat Management Guidelines: Early Successional Habitat." *North Carolina Wildlife Resources Commission*, accessed July 22, 2020 from [www.ncwildlife.org/portals/0/Conserving/documents/EarlySuccessionalHabitat.pdf](http://www.ncwildlife.org/portals/0/Conserving/documents/EarlySuccessionalHabitat.pdf).

## **Attachments**

Drawing Path: C:\Users\abentz\Desktop\Remote GIS\PuttPutt\VICINITY.mxd plotted by abentz 07-22-2020



**REFERENCE:**  
 GIS BASE LAYERS WERE OBTAINED FROM THE ESRI STREET MAP LAYER. THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY. ALL FEATURE LOCATIONS DISPLAYED ARE APPROXIMATED. THEY ARE NOT BASED ON CIVIL SURVEY INFORMATION, UNLESS STATED OTHERWISE.

 Site Parcel



**VICINITY EXHIBIT**

PUTT PUTT FUN CENTER  
 I-40 FRONTAGE NORTH OF EUBANKS ROAD  
 CHAPEL HILL, ORANGE COUNTY, NORTH CAROLINA

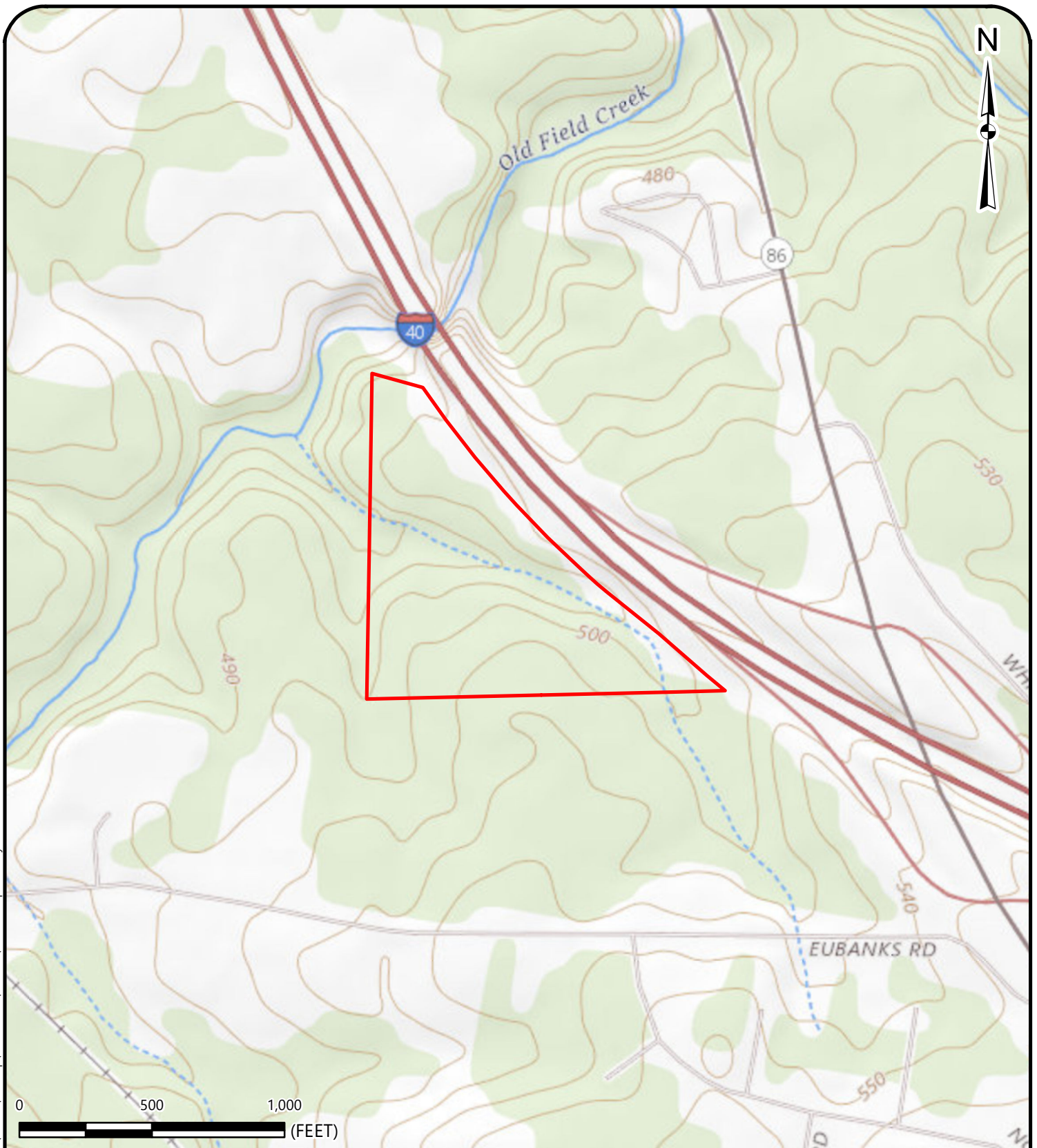
SCALE:  
 1" = 2,000'  
 DATE:  
 7-22-20  
 PROJECT NUMBER  
 4305-20-121

FIGURE NO.

**1**




Drawing Path: C:\Users\abentz\Desktop\Remote GIS\PuttPutt\USGS.mxd plotted by abentz 07-22-2020

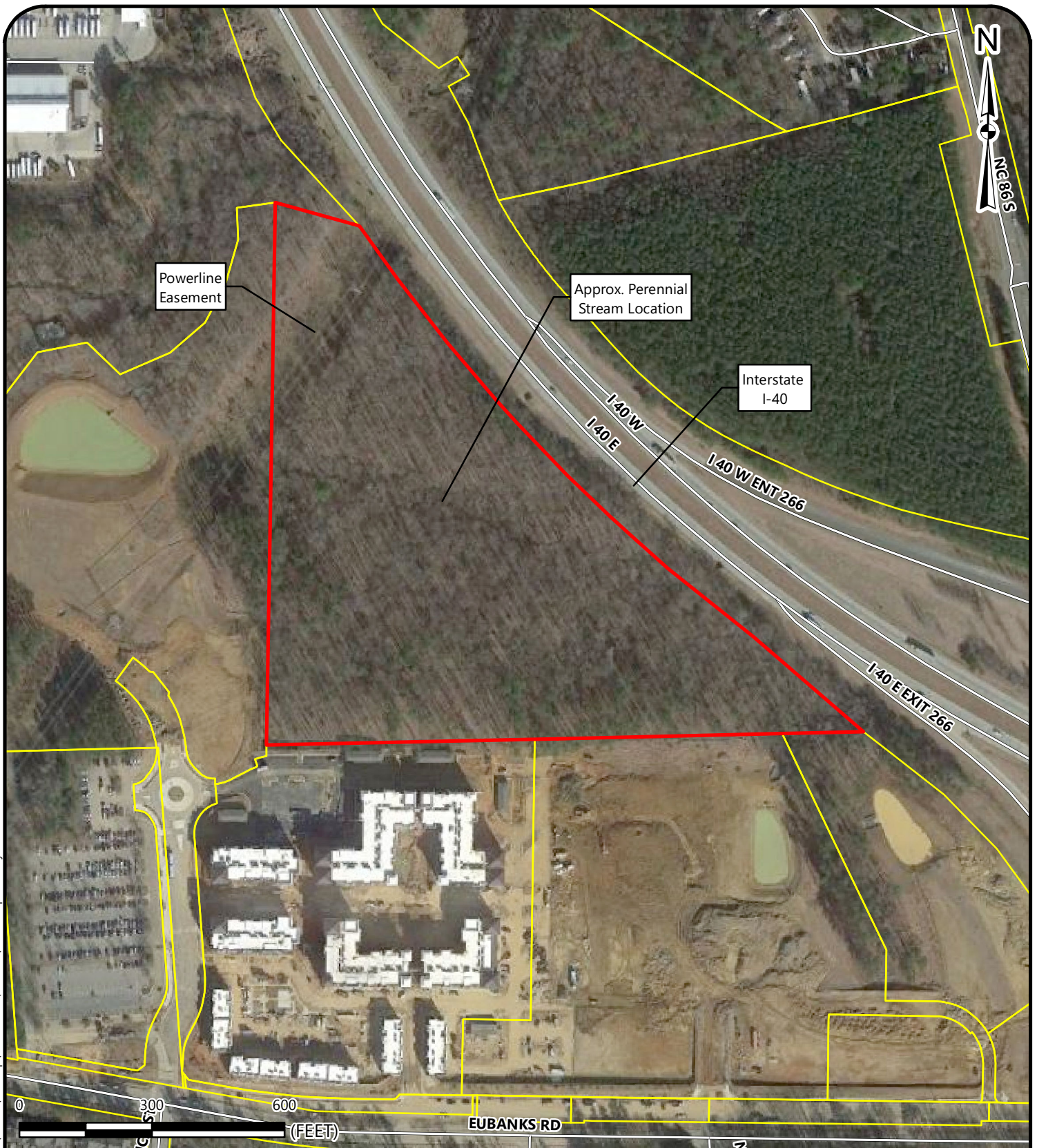


**REFERENCE:**  
 GIS BASE LAYERS WERE OBTAINED FROM THE USGS NATIONAL TOPO MAP VIEWER. THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY. ALL FEATURE LOCATIONS DISPLAYED ARE APPROXIMATED. THEY ARE NOT BASED ON CIVIL SURVEY INFORMATION, UNLESS STATED OTHERWISE.

 Site Parcel

	<b>USGS TOPOGRAPHIC EXHIBIT</b>		SCALE: 1" = 500'	<b>FIGURE NO.</b>  <b>2</b>
	PUTT PUTT FUN CENTER I-40 FRONTAGE NORTH OF EUBANKS ROAD CHAPEL HILL, ORANGE COUNTY, NORTH CAROLINA		DATE: 7-22-20	
			PROJECT NUMBER 4305-20-121	

Drawing Path: C:\Users\abentz\Desktop\Remote GIS\PuttPutt\SITE.mxd, plotted by abentz 07-22-2020



**REFERENCE:**  
 GIS BASE LAYERS WERE OBTAINED FROM THE 2019 GOOGLE EARTH AERIAL ORTHOIMAGERY LAYER. THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY. ALL FEATURE LOCATIONS DISPLAYED ARE APPROXIMATED. THEY ARE NOT BASED ON CIVIL SURVEY INFORMATION, UNLESS STATED OTHERWISE.

- Site Parcel
- Orange County Parcels

	<b>SITE EXHIBIT</b>	SCALE: 1" = 300'	<b>3</b>
	PUTT PUTT FUN CENTER I-40 FRONTAGE NORTH OF EUBANKS ROAD CHAPEL HILL, ORANGE COUNTY, NORTH CAROLINA	DATE: 7-22-20	
		PROJECT NUMBER 4305-20-121	



**1** View of uplands within the southern portion of the site.



**2** View of uplands north of the stream in the northern portion of the site.



**3** View of wetland area along the western property boundary.



**4** View of wetland area along the western property boundary next to the powerline easement.



**Site Photographs  
Putt Putt Fun Center  
Chapel Hill, Orange County, North Carolina**

S&ME Project No. 4305-20-121

Taken by: A. Bentz

Date Taken: 7/20/2020



**5** View of the perennial stream transecting the site.



**6** View of the perennial stream transecting the site.



**7** View of powerline easement looking north.



**8** View of powerline easement looking west.



**9** View of hickory nuts which are abundant on the site.



**10** Representative view of fallen logs and woody debris on the site, including some partially fallen snags.



**11** Representative view of stream floodplain and adjacent hillslope.



**12** View of new construction to the south of the site.



**Site Photographs**  
**Putt Putt Fun Center**  
**Chapel Hill, Orange County, North Carolina**

S&ME Project No. 4305-20-121

Taken by: A. Bentz

Date Taken: 7/20/2020



EnC HrB GID

TaD

1:990,000 FEET

**SITE**

Orange County Soil Survey  
Map 23

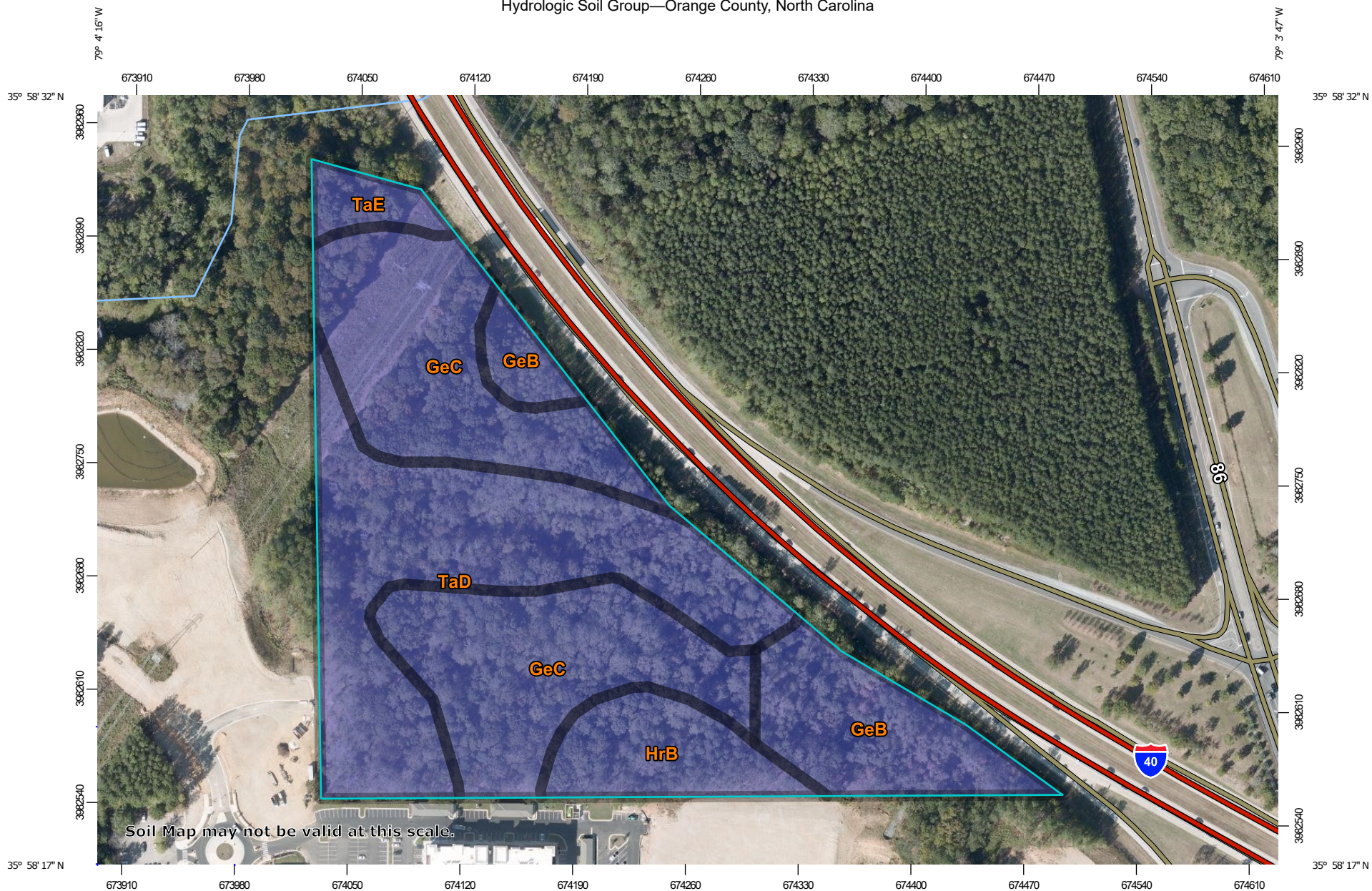
SITE

ORANGE COUNTY, NORTH CAROLINA - SHEET NUMBER 26

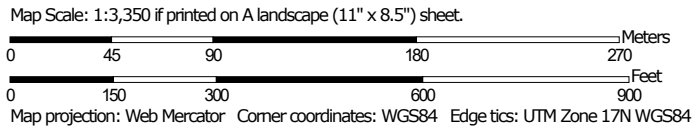
1:950 000 FEET



Hydrologic Soil Group—Orange County, North Carolina



Soil Map may not be valid at this scale.





## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

#### Soil Rating Polygons

 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

#### Soil Rating Lines

 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

#### Soil Rating Points

 A  
 A/D  
 B  
 B/D

 C  
 C/D  
 D  
 Not rated or not available


### Water Features

 Streams and Canals

### Transportation

 Rails  
 Interstate Highways  
 US Routes  
 Major Roads  
 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Orange County, North Carolina  
 Survey Area Data: Version 19, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 9, 2019—Oct 19, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
GeB	Georgeville silt loam, 2 to 6 percent slopes	B	3.4	15.4%
GeC	Georgeville silt loam, 6 to 10 percent slopes	B	8.9	40.5%
HrB	Herndon silt loam, 2 to 6 percent slopes	B	2.0	8.9%
TaD	Tarrus silt loam, 8 to 15 percent slopes	B	7.1	32.2%
TaE	Tarrus silt loam, 15 to 25 percent slopes	B	0.7	3.0%
<b>Totals for Area of Interest</b>			<b>22.0</b>	<b>100.0%</b>

## Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher

**RESOURCE CONSERVATION  
DISTRICT ENCROACHMENT  
EXEMPTION APPLICATION**



**TOWN OF CHAPEL HILL**  
Planning Department  
405 Martin Luther King Jr. Blvd  
phone (919) 968-2728 fax (919) 969-2014  
www.townofchapelhill.org

Parcel Identifier Number (PIN): 9870 99 7083

Date: 27-7-2020

**Section A: Project Information**

Project Name: Putt-Putt Fun Center

Property Address: Chapel Point Road Zip Code: 27516

Existing Zoning District: MU-R-1

**Section B: Applicant, Owner and/or Contract Purchaser Information**

**Applicant Information (to whom correspondence will be mailed)**

Name: Coulter Jewell Thames PA, Attn: Wendi Ramsden

Address: 111 West Main Street

City: Durham State: NC Zip Code: 27701

Phone: 919-682-0368 Email: wramsdencjtpa.com

The undersigned applicant hereby certifies that, to the best of his knowledge and belief, all information supplied with this application is true and accurate.

Signature:

Date: 7.27.2020

**Owner/Contract Purchaser Information:**

Owner

Contract Purchaser

Name: Optimal Ventures LLC, Attn: John Morris

Address: 194 Finley Golf Course Road, Suite 102

City: Chapel Hill State: NC Zip Code: 27517

Phone: 919-942-1141 Email: jmorris@morriscommercial.com

The undersigned applicant hereby certifies that, to the best of his knowledge and belief, all information supplied with this application is true and accurate.

Signature:

Date:

7/27/2020



**RESOURCE CONSERVATION DISTRICT ENCROACHMENT EXEMPTION APPLICATION  
SUBMITTAL REQUIREMENTS  
TOWN OF CHAPEL HILL  
Planning Department**

**Submittal Requirements**

Every application which proposes development or land-disturbing activities wholly or partially within the Resource Conservation District shall include the following, unless affirmatively exempted by the Town Manager in part or entirely, for the whole area covered by the application. The following must accompany your application. Failure to do so will result in your application being considered incomplete. For assistance with this application, please contact the Chapel Hill Planning Department (Planning) at (919)968-2728 or at [planning@townofchapelhill.org](mailto:planning@townofchapelhill.org). For detailed information, please refer to the Description of Detailed Information handout.

- A. A utilities plan;
- B. A grading plan showing existing and final contours;
- C. A sedimentation and erosion control plan;
- D. A storm water management plan;
- E. A soils analysis;
- F. Plans view showing: the topography of the site at a minimum horizontal scale of 1:60, at two-foot contour intervals; the location of streams, watercourses, stormwater runoff channels, etc; the limits of the floodway and floodplain; existing or proposed storm and sanitary sewers and sewer outfalls; septic tank systems and outlets, if any; existing and proposed structures and development; the 100-year flood and RCD elevations and limits; and existing and proposed tree lines;
- G. Profile view showing: at a minimum horizontal scale of 1:60, and minimum vertical scale of 1:10, the elevations of the watercourses bed; waterway openings of existing and proposed culverts and bridges within or near the site; size and elevation of existing or proposed sewer and drain outlets; the 100-year water surface elevations and limits; and the elevation of the Resource Conservation District;
- H. A description of existing vegetation, including significant trees and shrubs; and a landscape plan for the completed development;
- I. A description of wildlife habitats, noting the types of habitat on site and their potential as habitats for various species of wild life and identifying any relevant limiting factors;
- J. Description of proposed storage of materials and of waste disposal facilities;
- K. Certificate from a registered professional engineer or architect with respect to floodproofing, or from a registered professional engineer or surveyor with respect to elevation, that any floodproofing measures on nonresidential uses or finished elevations meet the requirements of this article;
- L. Copies of notifications to and responses by adjacent communities, the North Carolina Department of Crime Control, or its successor agency, and Public Safety, and the Federal Emergency Management Agency, or its successor agency, regarding any proposed alteration or relocation of a riverine watercourse;
- M. The increase in elevation of the 100-year flood upstream from the development, velocity changes and rate of rise changes, runoff, water quality change, sediment deposit rate changes, and the duration of the flood. The Town Manager shall approve the methodology used to determine the changes;
- N. A list of owners of properties located within five hundred (500) feet of the subject property boundaries with the full name and address of each property owner, with stamped, pre-addressed mailing envelopes for each owner on the mailing list.